

TERWILLEGAR DRIVE TRANSIT LANE ALIGNMENT

RECOMMENDATION

That the April 13, 2022, Integrated Infrastructure Services report IIS01184, be received for information.

Report Purpose

Information only.

Committee is being informed of an alternative design for a segregated transit lane along Whitemud Drive from 53 Avenue to Terwillegar Drive, which preserves as much as possible an existing undeveloped road right-of-way. The report also outlines the costs and impacts associated with the alternative design. Council direction is required to make changes to the current design.

Previous Council/Committee Action

At the March 14/16/22, 2022, City Council meeting, the following motion was passed:

That Administration provide a report to committee outlining options, including preliminary cost estimates, to realign the dedicated southbound transit lane from Whitemud Drive to Terwillegar Drive, currently an element of Phase 2 of the Terwillegar Drive project, so as to preserve as much of an existing green space as possible.

Executive Summary

- Stage Two of the Terwillegar Drive Expansion Program is planned to include a segregated transit lane along Whitemud Drive from 53 Avenue to Terwillegar Drive, built within the existing undeveloped road right-of-way.
- The current design is the lowest cost and most appropriate roadway geometry for rideability comfort for transit users. It impacts the usable area of the undeveloped road right-of-way in Ramsey Heights, reducing the plateau from 3.9 to 2.9 hectares.
- The alternative design allows for an additional 0.5 hectares of the undeveloped road right-of-way to be maintained for use by the community. It requires re-grading, tree removal and redesign of the transit lane and planned retaining wall, leading to additional costs; and would impact transit operations and transit rider comfort.

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- The provision of recognized parkland in the Ramsay Heights neighbourhood is currently above the Urban Parks Management Plan benchmark of two hectares of parkland per 1000 inhabitants, with 3.17 hectares per 1000 people (2019 census information).
- If Council directs Administration to advance the alternative design for the transit lane, additional funding of up to \$1.6 million would be required to be committed to Capital Profile 19-22-9006 Terwillegar Drive Expressway Upgrades - Alternate Staging as soon as possible to ensure redesign and construction procurement can proceed as planned.

REPORT

Terwillegar Drive is a key north-south route connecting Edmontonians across the city. The road has exceeded its transportation capacity. A three-stage plan has been approved to alleviate congestion and provide all users with a safe and efficient route to accommodate the area's growth.

Stage Two of the Terwillegar Drive Expansion Program is planned to include the rehabilitation and widening of the Rainbow Valley Bridges; a new pedestrian/cyclist bridge over Whitemud Creek; upgrades to the Whitemud Drive/Terwillegar Drive interchange; and supporting work which include many retaining walls and new drainage infrastructure. Stage Two also includes a new transit lane along southbound Whitemud Drive between Fox Drive and Terwillegar Drive to support enhanced transit services.

Transit Lane Design

The design of the new transit lane along southbound Whitemud Drive between Fox Drive and Terwillegar Drive is based on criteria reflecting the project objectives, including:

- Program design standards, including design and posted speeds;
- Efficient and reliable transit services;
- Balancing design requirements with tree removals and impact to the undeveloped road right-of-way; and
- Costs and schedule.

The transit lane will be a segregated lane along southbound Whitemud Drive from 53 Avenue to Terwillegar Drive and built within the existing undeveloped road right-of-way. The road right-of-way is currently used as an informal green space, particularly the area between Terwillegar Drive and 147 Street in Ramsey Heights, a plateau of approximately 3.9 hectares.

The current design provides the lowest cost and most appropriate roadway geometry for rideability comfort for the transit users. The design impacts the usable area of the undeveloped road right-of-way, reducing it to approximately 2.9 hectares.

Alternative Design

An alternative design of the transit lane alignment, focused on preserving as much of the undeveloped road right-of-way, was investigated. This alternative design includes sharper road curvature, which achieves the desired reduction in the use of the road right-of-way while generally maintaining the program design standards. The alternative design allows for an

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additional 0.5 hectares of the undeveloped road right-of-way to be maintained for use by the community, for a total of 3.4 hectares.

The alternative alignment would require re-grading and tree clearing and redesign of the planned retaining wall, increasing the cost of the transit lane construction. The additional cost for the alternative design above the current design is estimated between \$600,000 and \$1.6 million. Per the Project Development and Delivery Model (PDDM) and the Capital Project Governance Policy (C591), this estimate is aligned with Checkpoint 1 accuracy level of - 50 percent to + 100 percent.

The alternative design would also impact transit operations, as the steeper grade ascending through the curve would increase fuel consumption, wear on buses and impact transit rider comfort.

Attachment 1 provides a visual representation of the current and alternative design and their respective footprints.

Analysis

The current design has been refined to balance program objectives, transit operations, the use of the undeveloped road right-of-way, project constraints, constructability and cost. It allows the Ramsay Heights neighbourhood to continue to have access to 2.9 hectares of undeveloped road right-of-way as an informal green space while providing the most efficient and best experience for transit users.

The alternative design allows for an additional 0.5 hectares of the undeveloped road right-of-way to be maintained for use by the community. It would require re-grading, tree removal and redesign of the planned retaining wall, leading to additional costs; and would impact transit operations and transit rider comfort.

The Ramsay Heights neighbourhood has three municipally owned neighbourhood parks:

- James Ramsay Park (8.44 hectares)
- Sue Trigg Natural Area (1.12 hectares)
- Reilly Park (1.12 hectares)

This equates to 3.17 hectares per 1000 people (2019 census information), which is above the Urban Parks Management Plan benchmark of two hectares of parkland per 1,000 inhabitants. This total does not include informal green space within road right-of-way or river valley land, as Ramsay Heights is adjacent to the river valley though much of the land in this area is quite steep and heavily forested. Ramsay Heights is also connected to Terwillegar Park, Brander Gardens District Park, and the Fort Edmonton pedestrian bridge and trail loop.

Preserving the additional 0.5 hectares of undeveloped road right-of-way is estimated to increase the cost of Stage Two of the Terwillegar Drive Expansion Program between \$600,000 and \$1.6 million. For comparison, the land value of the 0.5 hectare loss of naturalized open space equates to approximately \$300,000. This particular parcel of land would not be prioritized by Administration for an increase to parkland, noting it is currently road right-of-way.

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Next Steps

Stage Two of the Terwillegar Drive Expansion Program is currently at the detailed design stage, working towards PDDM Checkpoint 4. Construction procurement is planned for summer 2022 to meet the planned construction timelines of in-service by end of year 2024. Changes to the current design would need to be directed by Council as soon as possible in order to be integrated into the construction tender documents and mitigate impacts to the overall project schedule.

Budget/Financial Implications

Stage Two of the Terwillegar Drive Expansion is funded through Capital Profile 19-22-9006 Terwillegar Drive Expressway Upgrades - Alternate Staging as part of the 2019–2022 Capital Budget. The profile includes \$116.5 million of funding from the Province of Alberta through a project specific and one-time grant as well as \$102.7 million of tax-supported debt and \$1.0 million of Pay-As-You-Go funding. The transit lane and active modes enhancement included in Stage Two are funded by the provincial grant.

If Council directs Administration to advance the alternative design for the transit lane, additional funding up to \$1.6 million would need to be committed to Capital Profile 19-22-9006 Terwillegar Drive Expressway Upgrades - Alternate Staging as soon as possible to ensure the construction procurement can proceed as planned.

COMMUNITY INSIGHT

Public and focused stakeholder engagements were conducted to share the preliminary design and currently anticipated construction plans for Stage Two of the project and gather input to be considered as the design and construction plans are finalized. These engagement opportunities included:

- Public information session: The virtual information sharing session was open to all members of the public. The event included an online presentation with project information followed by a live question and answer session. A total of 60 members of the public attended.
- Focused stakeholder engagement: Eighteen stakeholder groups were contacted. These groups included Community Leagues, community organizations, institutions, major attractions and schools. The project team met with eight stakeholders as of the time of writing this report.

Following the online event, and for the general duration of the stakeholder meetings, an online survey was open for members of the public and stakeholders to share feedback related to the proposed upgrades for transit and active transportation. The following key information was shared with members of the public and stakeholders:

- Terwillegar Drive Expansion program purpose, background, scope and schedule.
- Terwillegar Drive - Stage Two objectives.
- Planned project components, including upgrades planned within the River Valley and anticipated tree/vegetation impacts.
- Currently anticipated construction plans.

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The Terwillegar Drive Stage 2 Expansion builds on the comprehensive engagement conducted as part of the broader Terwillegar Drive Expansion project. Public and stakeholder input for Stage Two was gathered at the “advise” level of engagement, with the intent that it will be considered alongside City plans and policies, technical requirements and funding availability. The key themes from continued engagement will provide the project team with local and contextual knowledge that will be considered when completing the detailed design.

The project team is committed to ensuring communications and information sharing continue with members of the public, area residents and stakeholders during construction. A pre-construction information sharing event to outline what Edmontonians can expect during construction, a pre-construction information sharing event is currently planned for summer/fall 2022.

GBA+

The planning process for the Terwillegar Drive Stage 2 Expansion identified a diverse range of stakeholders, including area residents, roadway users and community organizations potentially impacted by the project. This work included providing a diverse range of communication tactics and developing public engagement strategies with multiple opportunities for stakeholders and members of the public to learn about the project and share input. Opportunities included an online event, one-on-one stakeholder meetings and direct contact with the project team. This allowed the project team to gather feedback from different perspectives to identify additional design considerations to mitigate or remove barriers to equity and support equality of outcomes, such as connection points for active transportation. The new separated pedestrian/cyclist bridge design incorporates design elements that ensure barrier-free access for users.

Specifically to the design of the dedicated southbound transit lane from Whitemud Drive to Terwillegar Drive, the current design provides the most appropriate roadway geometry for rideability comfort for the transit users. The alternative design’s steeper grade and sharper curve would impact the comfort of the transit riders.

ATTACHMENT

1. Map of Current and Alternative Transit Lane Alignment